No.9405 P. 10

Attorney Docket 10541/276

APPENDIX A

的ECEIVED CENTRAL FAX CENTE DEC 0 1 2004

I hereby certify that this correspondence is being sent via facsimile to 1-703-892-9306 at the United States Petent & Trudemark Office,

Date of Deposit

David W. Okey, Regis. No. 42,959

Name of applicant, assignee of

Signature

Date of Signature

Our Case No. 10541/276

2121

Ronald D. Hartmann, Jr.

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner:

Group Art Unit No.

In re Application of:

Walter Mayer

Serial No. 09/842,467

Filing Date: April 26, 2001

Automatic Procedure for Locating Actuator Addresses on a Bus

System

#### STATEMENT OF PRIOR INVENTION UNDER 37 C.F.R. § 1.131

Mail Stop Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

- I, the undersigned, with address and citizenship as stated below, declare of my own knowledge:
- 1. I declare that I made and conceived the invention described and claimed in United States Patent Application Number 09/842,467, filed in the United States of America on April 26, 2001, entitled Automatic Procedure for Locating Acquator Addresses on a Bus System.

Appl. No. 09/842,467

Attorney Docket 10541/276 Visteon V200-0687

- 2. I declare that I made and conceived this invention while employed by Visteon Deutschland GmbH ("Visteon"), that the invention is related to the work I am employed to perform, and that the invention was made within the scope of my employment duties. The invention was made and conceived by me prior to April 18, 2001, as disclosed in a four-page Invention Disclosure, (four pages total, attached and with dates redacted) which was signed and dated and witnessed in a letter to our outside patent counsel prior to April 18, 2001 (one additional page). I further declare that my work concerned actuators and their placement on actuator busses, and that I was in full possession of the invention, as described in the attached Invention Disclosure, prior to April 18, 2001.
- 3. As stated in the invention disclosure, my idea was to avoid having to use separate part numbers for each position of actuator. See Invention Disclosure p. 1, section 2. I also noted that one idea was to use the maximum possible movement of the actuator to determine which actuator it was. See p. 2, Section 4. I also stated in the disclosure that during start-up, the actuators can use a special command to determine one or more end stops, and compare the travel to a look-up table in order to determine which actuator it is. My disclosure also stated that maximum movement of an actuator could be determined using incremental feedback; the time of movement, current/voltage measurements, the step count of a stepper motor, or absolute feedback measurements. See section 4, pp. 2-3, bottom portion.
- 4. I declare that the invention was made during working hours and with the use of facilities, equipment, materials, funds, information and services of Visteon Deutschland GmbH at Visteon's research laboratories, at Weinsbergstraße 195, D-50825 Köln, Germany.
- 5. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of

Appl. No. 09/842,467

Alterney Docket 10541/276 Visteon V200-0687

Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Walter Mayer

Kölnstrasse 52 D-50321 Brühl

Germany

Citizen of Germany

Attachments: Invention Disclosure Letter to Outside Counsel

Current owner company. Change?

Visteon

FGTI MAIN PAGE

DIRECTORY

FGTI HUB

Related Links: View Invention Disclosure | Assign/Evaluate Disclosure | View

# Online Invention Disclosure: View Invention Disclosure

Inv. Discl. Docket No:

V200-0687

Creation Date:

Approval to submit was given by:

WMAYER2:

Section 1: INVENTION DESCRIPTION

Title of Invention:

AUTOMATIC PROCEDURE TO DETERMINE THE

ADDRESS FOR AN ACTUATOR AT A

BUSSYSTEM

Patent Evaluation

Committee:

**\$VCCS** 

CPSC Code:

12.00.00

**Originating Country** 

DE

Code:

Related Disclosure(s):

None

## Section 2: PROBLEM & SOLUTION

Description or Comments: If actuators controller via a bus system instead of direct control lines the actuator need a address. This address must be programmed in each actuator. So you must have seperate spare part no for service or the service personal needs equipment to programm the spare parts. To avoid this the maximum way of movement (if we have a incremental feedback) or the position of an endstop of each panel will be designed different. So with a special command or during battery reconnection the actuator can check the maximum movement and/or the position of the endstops to determin which address the actuator needs. This will prevent costs in stock (different spare parts) or costs for special programmer for the service stations and also avoid errors in ordering the wrong spare part or programming the wrong address to the actuator.

Attachment:

See Section:9 ATTACHMENTS

#### Section 3: PRIOR ART

Description or Comments: One other methods to distribute a address on different nodes ist with a ring bus system. The master sends a address I to the first node. The node N sends the address N+1 to the following node. The last node send the address N+1 back to the master. So the master can determin whether all nodes active and address distribution was successful. This methode need a busline input and a seperate busline output. If there is a wireing error the addresses will be distributed in the wrong way.

Attachment:

See Section: 9 ATTACHMENTS

Section 4: NEW TECHNOLOGY

**Description or Comments:** 

Attachment:

See Section: 9 ATTACHMENTS

### Section 5: DETAILED DESCRIPTION

Description or Comments: The idea is to use the maximum possible movement of the actuator to determin which actuator it is. If absolute encoder at the actuator, it is also possible to use the endposition to determin which actuator it is. In a climate control system for example are several panels to control the airflow. These panels could be driven by the same type ob bus actuator. State of art: 1. Program different addresses in the actuators during actuator production. This generates different part no. for every panel actuator. 2. Program different addresses in the production of the airhandling box and at service stations. This generates a lot of costs for programming tools at service stations. Additional the service worker could make errors in programming the address. 3. Use a ring bus system. Every node sends the N+1 address to the next node. This needs at least 4 pins (plus, minus, data-in, data-out) in stead of 3 pins (plus, minus, data). So the system costs are higher Solution for automatic distribution of actuator address with a 3 pin connector bus: The movement of the panels is designed so, that every pannel has a differen maximum movement. During start up oder with a special command, the motors move from one end stop to the other end stop and determin the maximum movement. Every motor can compare this value with a table and find out, which address it has. Some of motors have an absolute feed back of the output. Here the methode could be the same as above or done in the following way: The actuators are arranged so, that the end positions is at a different absolute position of the motor drive. During start up oder with a special command, the motors move

to one or both end stops. Every motor can compare this value(s) with a table and find out, which address it has. If both end stops are used additional a error check can be done. Claims: 1. To use maximum movement of an actuator to determin the address via a lookup table use incrementel feedback to determin the maximum movement - use the time for movement to determin the. maximum movement - use the time and current/voltage to determin the maximum movement of the actuator use the step count of a stepper motor until stall condition is detected to determin the maximum movement - use absolute feedback to determin the maximum movement - if feedback of some special positions is accessible these positions can be used instead of end stop positions 2. To use one or both end stop positions of an actuator with absolute feedback to determin the address via a lookup table - use absolute feedback to determin the maximum movement - if both end stop positions are checked an additional error signal can be generated - if feedback of some special positions is accessible these positions can be used instead of end stop positions 3. The lookup table is stored in the actuator ROM 4. The lookup table is stored in the master controller and send with the start up command to the actuators 5. If the address space is big enough, the address is generated by a calculation: (Mact-Mmin) \* Amax address := trunc( .....) Mmax-Mmin address = address of the actuator Mmax = max. possible movement of all actuators Mmin = min, possible movement of all actuators Mact = max. possible movement of an the special actuator which address is to determin Amax = max. no of possible addresses See Section:9 ATTACHMENTS

Attachment:

Section 6: DATES

Record(s) of Completion:

Date of Completion:

First Production Use: [Model and Date]

Climate Airhandling:

Section 7: CATEGORY QUESTIONS

Invention Category:

Category Questions do not exist or not answered.

&

#### Section 8: MISCELLANEOUS ITEMS

Is it a Government Contract?:

If yes, Government Contract Number:

No

Identify a government agreement, partnership, consortium, or other company involved with conception or first building of the invention: If disclosed to non-Company personnel, identify recipient and date:

#### Section 9: ATTACHMENTS

There are no file attachments for this invention disclosure

#### Section 10: INVENTORSHIP

CDS or Other Id:

WMAYER2

Last Name:

Mayer

First Name:

Walter

Middle Name:

**Employment Category:** 

S

**Employment Status:** Job Title:

A

Email:

Product Design Engineer

wmayer2@visteon.com 49-221-5406669

Office Phone Number: Fax:

49-221-5406579

Social Security or Company ID Number: [This field is blocked out intentionally.]

DE

Home Address Line 1:

Walter Mayer

Home Address Line 2:

Koelnstr. 52

City, State & Zip Code: Country Code:

D-50321 Brueh!

Employee of:

DE

Other

Department:

8324

Organization Code: Payroll Location Code:

Office Address:

VISTEON TECHNICAL CENTER,

Maildrop:

V/PV-C19

Supervisor's CDS Id:

FMEYER3

Manager's CDS Id:

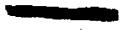
RFARAH

Owner: <u>DPORCARI</u> | Version 1.1 | Last Updated:

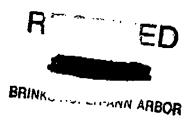
Administrative Assistant Visteon Global Technologies, Inc. A Subsidiary of Visteon Corporation

Suit. . 28 Parklane Towers East I Parklane Boulevard Dearborn, Michigan 43126 Telephone: 313-755-9098 Fax: 313-755-6130 Email: bgarret7@visteon.com





Steven Oberholtzer, Esq. Brinks Hofer Gilson Lione 1000 Victors Way Suite 100 Ann Arbor, MI 48108



See the possibilities

Re: Invention Disclosure: V200-0687

Title: AUTOMATIC PROCEDURE TO DETERMINE THE ADDRESS

FOR AN ACTUATOR AT A BUSSYSTEM

Dear Mr. Oberholizer:

The subject disclosure is enclosed for processing. Please proceed to prepare a patent application based on the above invention disclosure according to Visteon Global Technologies' procedures, and file prior to The disclosure has been evaluated for filing and therefore it is not necessary to prepare a pre-application memorandum. Please note that the application should be assigned to Visteon Global

The VGTI Lawyer responsible for this application is Larry Shelton, 313-755-9107. All communication regarding the application should be directed to the responsible attorney and reference the above disclosure number.

Very truly yours,

Brinda Darrett Brenda Garrett

Administrative Assistant

Enc.

# This Page is Inserted by IFW Indexing and Scanning Operations and is not part of the Official Record

# BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked	:
□ BLACK BORDERS	
☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES	
☐ FADED TEXT OR DRAWING	
BLURRED OR ILLEGIBLE TEXT OR DRAWING	
SKEWED/SLANTED IMAGES	
COLOR OR BLACK AND WHITE PHOTOGRAPHS	
GRAY SCALE DOCUMENTS	
LINES OR MARKS ON ORIGINAL DOCUMENT	•
☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY	٠.
OTHER.	

## IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.